

SI2-SSI: EVOLVE

Open MPI for Next Generation Architecture and Applications

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Augment Open MPI to evolve and adjust to the challenges of new hardware environments, and to maintain the same level of efficiency for parallel scientific applications in a quickly transitioning hardware ecosystem.

- Efficient **threading**, including for **MPI + X** programming models, **high injection rate**
- Support hybrid architectures with direct data movement to/from **accelerators**
- **Event-driven, architecture-aware collective** communications
- Highly **efficient MPI I/O** support via OMPIO
- Fast and scalable **runtime (PMIx)** providing **reduced memory** consumption, **fast startup** and **resilient** capabilities

